



Mini Cat5 VGA Transmitter With Local Port



Transmit VGA, HDTV Component Video, or
Composite Video via UTP Twisted Pair Cable

**CUSTOMER
SUPPORT
INFORMATION**

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: www.blackbox.com • E-mail: info@blackbox.com

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FCC and Canadian Dept of Communications Radio Frequency interference statements

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par le ministère des Communications du Canada.

European Union Declaration of Conformity

This product complies with the requirements of the European EMC directive 89/336/EEC



**Normas Oficiales Mexicanas (NOM)
Electrical Safety Statement
INSTRUCCIONES DE SEGURIDAD**

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico debe ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.

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1. Introduction

1.1 General

The AC603A extends video + phantom power over UTP (Cat5/5e/6) cable up to 500 feet. The unit has a local output port on an HD15 connector. The AC603A can support the following video signals

- PC's VGA video (RGBHV) at any resolution
- Component video (Y Pb Pr, or RGB), at any resolution - an adapter cable HD15-to-3RCA will be required
- NTSC, PAL, or SECAM Composite video and stereo audio -an adapter cable HD15-to-3RCA (video and R/L Audio) will be required

At the receiving (remote) end the Cat5 signal is converted back to VGA for connection to monitors, projector or other display devices using a compatible unit (Black Box Model AC602A).

The AC603A includes a power supply that powers itself and the AC602A Receiver (phantom power) for a clean and easy setup (*note that if the length of Cat5 cable is longer than 300 feet, the receiver may require its own power supply*). Alternatively, the power supply can be connected to the AC602A remote receiver, in which case, the sender is powered through the cat5 cable.

1.2 Features

- Local VGA port available for local display
- Differential signaling eliminates ground loops and noise
- Handles resolutions up to 1600x1200 at any refresh rate
- Rugged, Reliable, Compact size
- Only one end requires power in most applications. Power supply can be connected at the sending or the receiving end, whichever is convenient.
- Drive standard CAT5 cables to 500 feet (for VGA and Component Video) or to 1200 feet (for Composite Video + Audio)

2. Installation

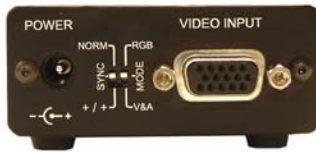


Figure 1 – AC603A Front

2.1 Setup Connections

1. Connect the VIDEO INPUT to the computer's video port using a male-male VGA cable (not included).
2. If desired, connect a local display to the VGA out port of the Transmitter unit.
3. Using Category 5 cables connect the RJ45 port of the Transmitter to the Model AC602A Receiver.
4. Connect the Remote displays to the VGA output port of the AC602 Receivers.
5. Plug in the supplied Power supply to the Power Input jack of the Transmitter unit (can also be connected to Receiver instead).
6. Turn on the local and remote displays, then the PC

Note: If the source is Component Video (YPbPr) an HD15 to 3 RCA cable will be required for each HD15 connector.



If the source is composite video with stereo audio, a similar cable will be needed. The RCA connectors are typically yellow (instead of green) for video and red/white for audio. To transmit CV and stereo audio, you must set a dip switch per the following section.

2.2 Dip Switch Settings

The AC603A can be used to transmit Composite Video and Stereo Audio instead of VGA to the receiver. However since the Video signals are terminated differently than audio, you need to move the dip switch to the proper position.

Use the Mode Dip Switch to select the video type for transmission.

The Sync Dip Switch is used to change the polarity of sync at the receiver. If your remote display has trouble positioning the right and left edges of the screen, then try putting the switch is +/-

NOTES



If the length of Cat5 Cable is longer than 300 feet you may need to attach a power supply to the receiver unit. The power supply will need to be the same as the sending unit (i.e. 9VDC regulated, Center Positive with 2.5mm connector). If there is no image at the remote or the image is intermittent, you may need a power supply at the receiver, please contact Black Box to purchase one. Generally if the remote display device is referenced to ground (i.e. the VGA connector ground or case, is connected to power line ground) you should not need an additional power supply to the specified maximum length of 500 feet



Do not connect this unit to any LAN device such as network cards or hubs as this may damage the AC155A and/or the LAN device. Use EIA/TIA 568B standard straight-through patch wiring. Do not use crossover cables.



For cable runs of 300 feet or longer it is recommended that you use a UTP cable that is optimized for video (low skew cable). We recommend Belden Cable's "Brilliance® VideoTwist(tm)" Category 5 Cable for best results.

3. Troubleshooting

1. Fuzzy, blurry, or ghosting image at remote location

If you have a stable image but it looks blurry (object or character edges are smearing), adjust the compensation on the receiver. If you still have a fuzzy image, try reducing the refresh rate and/or the resolution setting of the video. For Best results use either low-skew cable (such as Belden Brilliance® VideoTwist), or Cat5 (instead of Cat6).

2. Shaking image or periodically blanking monitor

A strong electromagnetic noise field can cause instability in the signal. Usual sources of this form of noise coupling are high current AC lines or other high-density data and/or control cables that run adjacent to and parallel with a substantial length of the CAT5 cable.

To eliminate this, either separate the Cat 5 cable of Mini-CAT5 Extender from the interfering source or use shielded CAT5 cables. Usually separating the CAT5 cable from the interfering source by a few inches is sufficient to eliminate this problem.

If the length of Cat5 run exceeds 300 feet you may need an additional power supply at the receiver.

Contacting Black Box

If you determine that your extender is malfunctioning, do not attempt to repair the unit. Contact Black Box at 724-746-5500. Before you do, make a record of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description.

Shipping and Packaging

If you need to transport or ship your extender:

- Package it carefully. Use the original container if possible.
- Before you shipping the unit, contact us to get a Return Authorization (RA) number.

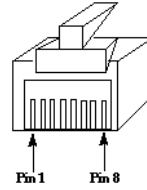
4. Specifications

Video Types	VGA through UXGA (RGBHV, or YPbPr), <u>or</u> CV and line level stereo audio
Resolution	Up to 1600 x 1200 at up to 85 Hz PC or 1080i HDTV
Bandwidth	DC to 250 MHz
Max. Distance	Up to 328 ft. (100 m) with Phantom Power, or 500 ft (150 m) with additional power supply at receiver for VGA or 1200 feet for CV and audio
Connectors	HD15 female for video in and out; Shielded RJ45
Interfaces	Standard Analog VGA; Proprietary CAT5
Compliance	CE; FCC Part 15 Subpart B Class A, IC Class
Max. Altitude	10,000 ft. (3048 m)
Temperature	Operating: 32 to 122°F (0 to 50°C); Storage: -40 to +185°F (-40 to +85°C)
Humidity	Up to 95% non-condensing
Enclosure	Aluminum and Steel
MTBF	100,000 hours (calculated estimate)
Power	From utility-power (mains) outlet, through included Universal power adapter. Input Voltage: 100~240 VAC Output Voltage: 9v DC regulated Center-Positive at 1.7A Max
Dimensions	1.1" H X 2.75" W X 3.1" L
Weight	1.6 lbs

5. Appendix

EIA/TIA 568B WIRING STANDARD

PIN	Wire Color
1	White w/ Orange Stripe
2	Orange
3	White w/Green Stripe
4	Blue
5	White w/Blue Stripe
6	Green
7	White w/Brown Stripe
8	Brown





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